



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
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Canada

Tel (613) 632-5200  
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**D4775-041**  
**Job Sheet 186697**



Part No: D4775-041

Job Qty: 10 ea

Part Name: Strut Assembly



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 11/20/18

Job Tracking No:

Due Date: 12/7/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV C SHEET 1 IPP REV:A 13.02.28 NEW ISSUE DD VERF:JFS IPP REV:B 13.08.26 PB1 DD  
VERF:JLM IPP REV:C 13.09.26 AS PER REV.B DD VERF:JLM IPP REV:D 14.01.10 AS PER REV.C DD  
VERF:JLM

Ship Via:

### Bill of Materials

### Job Routing

| Op No | Operation          | Qty    | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off          |
|-------|--------------------|--------|------------|----------|-----------|---------|-----------------------|-----------|-------------------|
|       |                    |        |            |          | Setup Hrs | Run Hrs | Workcenter / Supplier | Lead Time |                   |
| 90    | Start up Operation | 10 Ea  |            | 12/7/18  | 0.00      | 0.00    | Start Up Stores/Pkg-1 |           | JAN 03 2019 10:10 |
| 110   | Packaging          | 10 pcs |            | 12/7/18  | 0.00      | 0.00    | Packaging1-5          |           | JAN 07 2019 58    |
| 120   | Small Fab          | 10 pcs |            | 12/7/18  | 0.00      | 4.15    | Small Fab-7           |           | 9:09              |
| 130   | QC                 | 10 pcs |            | 12/7/18  | 0.00      | 0.00    | QC5                   |           | JAN 08 2019 68    |
| 140   | Packaging          | 10 pcs |            | 12/7/18  | 0.00      | 0.00    | Packaging3-2          | 387       | 9:89              |
| 150   | QC21-SA            | 10 Ea  |            | 12/7/18  | 0.00      | 0.00    | QC21                  |           | JAN 08 2019       |

Part Op 120 - 1- APPLY PROSEAL ON D4776-1 STRUT AND ASSEMBLE AS PER DWG A/R PROSEAL  
Descriptions: BATCH: 138976 2- ENSURE HELICOIL DOES NOT BLOCK HOLE (SEE NOTE 9)

### Job BOM

| Part / Item  | Component Name      | Quantity     | Operation             | Container             |
|--------------|---------------------|--------------|-----------------------|-----------------------|
| AN3-10A      | Bolt                | 20 Ea (2 ea) | 90-Start up Operation | 5123685               |
| D4775-1      | Strut Tube          | 10 Ea (1 ea) | 90-Start up Operation | 5136801               |
| D4776-1      | Basket Strut Clevis | 10 Ea (1 ea) | 90-Start up Operation | 5136799               |
| D4776-5      | Spacer              | 40 Ea (4 ea) | 90-Start up Operation | 5131231 x36 5136841   |
| D4777-1      | Rod End Bearing     | 10 Ea (1 ea) | 90-Start up Operation | 5116883 x9 5137348 x1 |
| MS21042L3    | Nut                 | 20 Ea (2 ea) | 90-Start up Operation | 5132364               |
| MS21209-F615 | Heli-Coil           | 10 Ea (1 ea) | 90-Start up Operation | 5131187               |

### Job Allocations

| Operation             | Component Part | Required | Inventory | Allocated |
|-----------------------|----------------|----------|-----------|-----------|
| 90-Start up Operation | AN3-10A        | 20       | 150       | 0         |
|                       | D4775-1        | 10       | 0         | 0         |
|                       | D4776-1        | 10       | 25        | 0         |
|                       | D4776-5        | 40       | 76        | 0         |
|                       | D4777-1        | 10       | 34        | 0         |
|                       | MS21042L3      | 20       | 1,662     | 0         |
|                       | MS21209-F615   | 10       | 46        | 0         |

### Part Specifications

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                            | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |                                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube <input type="checkbox"/></td> <td style="width:15%;">Cross tube <input type="checkbox"/></td> <td style="width:15%;">Water Jet <input type="checkbox"/></td> <td style="width:15%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> |                                             |                                 |                                   |                                   |                                       | Skid-tube <input type="checkbox"/>     | Cross tube <input type="checkbox"/> | Water Jet <input type="checkbox"/>    | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/>       | Prod. Eng. Coord. <input type="checkbox"/>  | Quality <input type="checkbox"/>          | Thermoforming <input type="checkbox"/>    | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/>               | Large Fab <input type="checkbox"/>  | Composite <input type="checkbox"/>           | Supplier <input type="checkbox"/>         |                                                |                                        |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |                                          |                                           |                                |                                  |                                 |                                  |                                                |                                    |                                |                                 |                                               |                               |                                                 |                                                            |                                |                                |                                        |                                          |                                   |                                      |                                  |                                     |                                        |                                     |                                             |                                                          |                                       |                                        |                                      |                                                |
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| Machining <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Small Fab <input type="checkbox"/>                         | Prod. 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Coord. <input type="checkbox"/>                                                                                                                                         | Quality <input type="checkbox"/>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                             |                                 |                                   |                                   |                                       |                                        |                                     |                                       |                                      |                                    |                                          |                                             |                                           |                                           |                                    |                                              |                                              |                                     |                                              |                                           |                                                |                                        |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |                                          |                                           |                                |                                  |                                 |                                  |                                                |                                    |                                |                                 |                                               |                               |                                                 |                                                            |                                |                                |                                        |                                          |                                   |                                      |                                  |                                     |                                        |                                     |                                             |                                                          |                                       |                                        |                                      |                                                |
| Thermoforming <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| <b>Root Cause</b><br><table style="width:100%; border: none;"> <tr><td>Environment <input type="checkbox"/></td><td>No Re-verification <input type="checkbox"/></td></tr> <tr><td>Design <input type="checkbox"/></td><td>Operator <input type="checkbox"/></td></tr> <tr><td>Doc/Data <input type="checkbox"/></td><td>Offset/Setup <input type="checkbox"/></td></tr> <tr><td>Equip/Tooling <input type="checkbox"/></td><td>Supplier <input type="checkbox"/></td></tr> <tr><td>Handling/Pre <input type="checkbox"/></td><td>Training <input type="checkbox"/></td></tr> <tr><td>Material <input type="checkbox"/></td><td>Use for Testing <input type="checkbox"/></td></tr> <tr><td>Internal Transport <input type="checkbox"/></td><td>Poor Information <input type="checkbox"/></td></tr> <tr><td>Tribal Knowledge <input type="checkbox"/></td><td>Rushing <input type="checkbox"/></td></tr> <tr><td>LOA <input type="checkbox"/></td><td>Product Improvement <input type="checkbox"/></td></tr> <tr><td>Substation <input type="checkbox"/></td><td>Process Improvement <input type="checkbox"/></td></tr> <tr><td>Past Expiry Date <input type="checkbox"/></td><td>Manufacturing Process <input type="checkbox"/></td></tr> <tr><td>Misidentified <input type="checkbox"/></td><td>Past Due <input type="checkbox"/></td></tr> </table> |                                                            |                                                                                                                                                                                    |                                      | Environment <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | No Re-verification <input type="checkbox"/> | Design <input type="checkbox"/> | Operator <input type="checkbox"/> | Doc/Data <input type="checkbox"/> | Offset/Setup <input type="checkbox"/> | Equip/Tooling <input type="checkbox"/> | Supplier <input type="checkbox"/>   | Handling/Pre <input type="checkbox"/> | Training <input type="checkbox"/>    | Material <input type="checkbox"/>  | Use for Testing <input type="checkbox"/> | Internal Transport <input type="checkbox"/> | Poor Information <input type="checkbox"/> | Tribal Knowledge <input type="checkbox"/> | Rushing <input type="checkbox"/>   | LOA <input type="checkbox"/>                 | Product Improvement <input type="checkbox"/> | Substation <input type="checkbox"/> | Process Improvement <input type="checkbox"/> | Past Expiry Date <input type="checkbox"/> | Manufacturing Process <input type="checkbox"/> | Misidentified <input type="checkbox"/> | Past Due <input type="checkbox"/> | <b>FAULT CATEGORY</b><br><table style="width:100%; border: none;"> <tr><td>Pressure/Forced <input type="checkbox"/></td><td>Temperature/Cure <input type="checkbox"/></td><td>Power <input type="checkbox"/></td></tr> <tr><td>Bending <input type="checkbox"/></td><td>Set-up <input type="checkbox"/></td><td>Folio/P <input type="checkbox"/></td></tr> <tr><td>Centre Not Concentric <input type="checkbox"/></td><td>BOM/Route <input type="checkbox"/></td><td>Grain <input type="checkbox"/></td></tr> <tr><td>Cracks <input type="checkbox"/></td><td>Broken/Damage/Defect <input type="checkbox"/></td><td>Weld <input type="checkbox"/></td></tr> <tr><td>Crimp/Kink/Ripple/Wave <input type="checkbox"/></td><td>Inspection Incomplete/Unqualified <input type="checkbox"/></td><td>Wrong <input type="checkbox"/></td></tr> <tr><td>Cuffs <input type="checkbox"/></td><td>Contamination <input type="checkbox"/></td><td>Out of Sequence <input type="checkbox"/></td></tr> <tr><td>Crushing <input type="checkbox"/></td><td>Countersink <input type="checkbox"/></td><td>Off-set <input type="checkbox"/></td></tr> <tr><td>Heat Treat <input type="checkbox"/></td><td>Cut Too Short <input type="checkbox"/></td><td>Mislabeled <input type="checkbox"/></td></tr> <tr><td>Wave/Twist in Tube <input type="checkbox"/></td><td>Instructions Incomplete/Unclear <input type="checkbox"/></td><td>Fit/Function <input type="checkbox"/></td></tr> <tr><td>Marks/Chatter <input type="checkbox"/></td><td>Drill Holes <input type="checkbox"/></td><td>Misaligned/off center <input type="checkbox"/></td></tr> </table> |  |  |  |  | Pressure/Forced <input type="checkbox"/> | Temperature/Cure <input type="checkbox"/> | Power <input type="checkbox"/> | Bending <input type="checkbox"/> | Set-up <input type="checkbox"/> | Folio/P <input type="checkbox"/> | Centre Not Concentric <input type="checkbox"/> | BOM/Route <input type="checkbox"/> | Grain <input type="checkbox"/> | Cracks <input type="checkbox"/> | Broken/Damage/Defect <input type="checkbox"/> | Weld <input type="checkbox"/> | Crimp/Kink/Ripple/Wave <input type="checkbox"/> | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong <input type="checkbox"/> | Cuffs <input type="checkbox"/> | Contamination <input type="checkbox"/> | Out of Sequence <input type="checkbox"/> | Crushing <input type="checkbox"/> | Countersink <input type="checkbox"/> | Off-set <input type="checkbox"/> | Heat Treat <input type="checkbox"/> | Cut Too Short <input type="checkbox"/> | Mislabeled <input type="checkbox"/> | Wave/Twist in Tube <input type="checkbox"/> | Instructions Incomplete/Unclear <input type="checkbox"/> | Fit/Function <input type="checkbox"/> | Marks/Chatter <input type="checkbox"/> | Drill Holes <input type="checkbox"/> | Misaligned/off center <input type="checkbox"/> |
| Environment <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Handling/Pre <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Training <input type="checkbox"/>                          |                                                                                                                                                                                    |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Material <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Use for Testing <input type="checkbox"/>                   |                                                                                                                                                                                    |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Internal Transport <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Poor Information <input type="checkbox"/>                  |                                                                                                                                                                                    |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Tribal Knowledge <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Rushing <input type="checkbox"/>                           |                                                                                                                                                                                    |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                 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| LOA <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| Substation <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| Past Expiry Date <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| Misidentified <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Pressure/Forced <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Temperature/Cure <input type="checkbox"/>                  | Power <input type="checkbox"/>                                                                                                                                                     |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Bending <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Set-up <input type="checkbox"/>                            | Folio/P <input type="checkbox"/>                                                                                                                                                   |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Centre Not Concentric <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| Cracks <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| Crimp/Kink/Ripple/Wave <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| Cuffs <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| Crushing <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Countersink <input type="checkbox"/>                       | Off-set <input type="checkbox"/>                                                                                                                                                   |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Heat Treat <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Cut Too Short <input type="checkbox"/>                     | Mislabeled <input type="checkbox"/>                                                                                                                                                |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Wave/Twist in Tube <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| OTHER :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            |                                                                                                                                                                                    |                                      | <div style="border: 1px solid black; padding: 5px; float: right; width: 200px;"> <p style="text-align: center; margin: 0;"><b>DART</b><br/>AEROSPACE</p> <p>Container No: S142217</p> <p>Part: D4775 - 041</p> <p>Job No: 186697</p> <p>Serial No/Batch: S142217</p> <p>Inspector: _____</p> <p>Exp Date: _____</p> <p>Instructions: Various STC's</p> <p style="text-align: right;">Date: 01/07/19</p> </div> <div style="clear: both;"></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                             |                                 |                                   |                                   |                                       |                                        |                                     |                                       |                                      |                                    |                                          |                                             |                                           |                                           |                                    |                                              |                                              |                                     |                                              |                                           |                                                |                                        |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |                                          |                                           |                                |                                  |                                 |                                  |                                                |                                    |                                |                                 |                                               |                               |                                                 |                                                            |                                |                                |                                        |                                          |                                   |                                      |                                  |                                     |                                        |                                     |                                             |                                                          |                                       |                                        |                                      |                                                |

Specifications could not be found.

Plex 11/20/18 11:28 AM Dart.lajeunesse.marie



DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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|--------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--|-----------------------|----------------------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |                                                | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |                                                            | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                               |  |                       |                                              |  |
| Date :                                                       |                                                | Step #:                                                                                                                                                                            |                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  | MRB (QSI042) Approval |                                              |  |
| Description Work Order Deviation                             |                                                |                                                                                                                                                                                    |                                                            | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                               |  |                       | Completed By                                 |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                       | Lead hand / Supervisor Approval Verification |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                       |                                              |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                       |                                              |  |
| Root Cause                                                   |                                                | FAULT CATEGORY                                                                                                                                                                     |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                       |                                              |  |
| Environment <input type="checkbox"/>                         | No Re-verification <input type="checkbox"/>    | Pressure/Forced <input type="checkbox"/>                                                                                                                                           | Temperature/Cure <input type="checkbox"/>                  | Power Loss/Surge <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Positioned Wrong <input type="checkbox"/>     |  |                       |                                              |  |
| Design <input type="checkbox"/>                              | Operator <input type="checkbox"/>              | Bending <input type="checkbox"/>                                                                                                                                                   | Set-up <input type="checkbox"/>                            | Folio/Program <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Outside Dimensions <input type="checkbox"/>   |  |                       |                                              |  |
| Doc/Data <input type="checkbox"/>                            | Offset/Setup <input type="checkbox"/>          | Centre Not Concentric <input type="checkbox"/>                                                                                                                                     | BOM/Route <input type="checkbox"/>                         | Grain <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Over/Under tolerance <input type="checkbox"/> |  |                       |                                              |  |
| Equip/Tooling <input type="checkbox"/>                       | Supplier <input type="checkbox"/>              | Cracks <input type="checkbox"/>                                                                                                                                                    | Broken/Damage/Defect <input type="checkbox"/>              | Weld <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Part Incorrect <input type="checkbox"/>       |  |                       |                                              |  |
| Handling/Pre <input type="checkbox"/>                        | Training <input type="checkbox"/>              | Crimp/Kink/Ripple/Wave <input type="checkbox"/>                                                                                                                                    | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Part Lost/Missing <input type="checkbox"/>    |  |                       |                                              |  |
| Material <input type="checkbox"/>                            | Use for Testing <input type="checkbox"/>       | Cuffs <input type="checkbox"/>                                                                                                                                                     | Contamination <input type="checkbox"/>                     | Out of Sequence <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Part Moved <input type="checkbox"/>           |  |                       |                                              |  |
| Internal Transport <input type="checkbox"/>                  | Poor Information <input type="checkbox"/>      | Crushing <input type="checkbox"/>                                                                                                                                                  | Countersink <input type="checkbox"/>                       | Off-set <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Drawing <input type="checkbox"/>              |  |                       |                                              |  |
| Tribal Knowledge <input type="checkbox"/>                    | Rushing <input type="checkbox"/>               | Heat Treat <input type="checkbox"/>                                                                                                                                                | Cut Too Short <input type="checkbox"/>                     | Mislabeled <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Finish <input type="checkbox"/>               |  |                       |                                              |  |
| LOA <input type="checkbox"/>                                 | Product Improvement <input type="checkbox"/>   | Wave/Twist in Tube <input type="checkbox"/>                                                                                                                                        | Instructions Incomplete/Unclear <input type="checkbox"/>   | Fit/Function <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Misread <input type="checkbox"/>              |  |                       |                                              |  |
| Substation <input type="checkbox"/>                          | Process Improvement <input type="checkbox"/>   | Marks/Chatter <input type="checkbox"/>                                                                                                                                             | Drill Holes <input type="checkbox"/>                       | Misaligned/off center <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Turning Sequence <input type="checkbox"/>     |  |                       |                                              |  |
| Past Expiry Date <input type="checkbox"/>                    | Manufacturing Process <input type="checkbox"/> | OTHER : _____                                                                                                                                                                      |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                       |                                              |  |
| Misidentified <input type="checkbox"/>                       | Past Due <input type="checkbox"/>              |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                               |  |                       |                                              |  |